rous dissections, that delirium tremens is an inflammation of the stomach, and yet he would propose to cure it by emetics—why? for no other reason surely than that he supposed emetics had been found useful by experience; but Broussais has found that remittent fever is a gastritis also, and condemns emetics—why? because experience had long determined that they were injurious in all inflammations of the stomach. Now, it appears to us that the true eclectic upon finding the stomach inflamed in delirium tremens, would have reasoned thus—

"In the first place, this man has long been in the habits of intemperance, and this phlogosis may be chronic. Secondly, it could not have produced the symptoms of delirium tremens, or they would more generally attend gastritis, they would result from poisons, and from external violence, which is never the case. Thirdly, the method of curing gastritis is the very antipodes of the cure for delirium tremens. Fourthly, had this gastritis been the cause of those symptoms, they would always be aggravated by those stimulants that are known to cure them. Fifthly, suppose the stomach to be inflamed during chronic intemperance or a recent debauch, would not the method of preventing delirium tremens therefrom, be to abstract all spirits at *once*, reduce the patient as for a pleurisy, and give him a suitable portion of gum water?"

For these and many other reasons, says the eclectic, we must look further for the *morbus ipse.*

In the next place he finds the brain, or its meninges inflamed, and a similar course of reasoning proves to him, that neither is this the proximate cause; and further, the *juvantia et lædentia* have long shown him that even this, bad as it appears, is to be prevented or driven away by stimuli, as in spotted fever, or all his patients must die.

*Northumberland, Pa. June*, 1830.

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ART. IX. *Case of Tubero-Carunculoid Liver.* By THOMAS H. WRIGHT, M. D. Physician to the Baltimore Alms-house Infirmary.

IN a report in the number of this Journal for November last, detailing certain forms of hepatic pathology, there is a case described as an instance of carunculation, or "fleshy vegetation" of the liver. The following appears to belong to the same class, but representing the tuberoid character, in a different aspect. The rarity of those forms may render this case also worthy of notice, and I therefore give a

sketch of it now, that it may stand as nearly as possible in connexion with the former.

A man of large person, middle age, and vigorous constitution, was admitted into the Baltimore Alms-house in the second week of November, 1830. Disease, acute pneumonitis of twelve days course, without treatment. Diagnosis, by the signs after admission, suppuration in inferior lobe of right lung, probably participated by the liver. The patient prostrated slowly, and died thirteenth day in hospital.

*Dissection.*—Thorax. Left lung sound throughout. Right lung totally extinct. In place of lung texture, the right pulmo-pleural sac was completely filled with a light-coloured, cream-like, inodorous pus; no vestige of parenchyma. The cyst, (pleura,) of this great abscess was entire every where, and its substance very much thickened.

The liver proved to be entirely free of concern in the decay of the lung. It was enlarged one-third more than the usual bulk of that organ, but not sensibly morbid. There was something in the surface character of this liver, of which I have seen no former example. The total superficies of the viscus exhibited a groupe of eminences or mamillary risings, about the size of garden peas, individually distinct, yet every where proximate, each one touching the base of others, and thus studding the surface of the liver in its whole extent. Those risings were equally and regularly disposed over the whole exterior of the organ, fringing even the crescent margin all round, with a regular series of mamillary or pisiform prominences. On the concave surface of the liver, the risings were more closely placed and evidently larger in size than any where else; the regularity of form was remarkable in them every where. The appearance of the total crop of those elevations on the liver, was strongly representative of the close, but discrete small pox, in the first period of pustular maturation. The size and form were the same, with one distinction only—the absence of the umbilicated apex of the variolous pustule. The eminences on the liver were regularly rounded, obtuse, conoid.

There was nothing palpably morbid in the constitution of those risings on the liver, no conversion or apparent tendency to change in any of them. By section, they appeared to consist of the common pulp or parenchyma of the organ, and were all covered by the delicate, peritoneal tunic of the liver, in a healthy state. Colour of the eminences and whole viscus, natural complexion, pale chocolate hue.

*Baltimore, Dec.* 1830.

ART. X. *On the Operation of Physical Causes upon the Constitution, the Health, and Diseases of Man.* By EDWARD FLORENS RIVINUS, M. D.

IN contemplating the changes and vicissitudes of nature in the widest sense of the word, a careful observer can scarcely fail to perceive the order in which they occur, and succeed one another. They are not ushered in as the offspring of incoherent chance, but, on the contrary, appear to be the result of a systematical arrangement, pervading the universe, and subject only to certain and distinctly marked local modifications. While each submits to the well-defined authority of the other, they influence in combined force, and act upon the principle of vitality of every organized being. To the mere lover of science, not less than to the philosopher ex professo, this doubtless exhibits a most interesting subject for examination and reflection; yet, of infinitely higher importance to the whole human family, is their closest and most accurate observation, when considered in a medical point of view.

Under the title of *physical causes*, the chemistry of nature enters extensively into the calculation of every practical physician, at least so far as the district of his practice is concerned. The practitioner of more enlarged views, however, would fain limit himself to the observation of the phenomena of nature, as they successively occur within the narrow boundaries of individual activity. He will travel farther in pursuit of knowledge and truth; he will compare the changes and events of nature in other regions, the observations and experience of his medical brethren in distant countries with those of his own, and in this manner he will gradually arrive at certain conclusions, highly advantageous, when guided by sound judgment, to the fellow beings under his care, and doubly so, when published, to mankind at large. But, in order to be of any practical service, the mere accumulation of facts of this kind will not be sufficient to show the ramifications and the widely-established influence of physical causes upon both the healthy and the diseased condition of man, unless, indeed, they be judiciously arranged under certain heads or classes. To a limited extent this has been done in numerous instances, as will appear by referring to the medico-topographical descriptions of individual cities and districts, with which the medical literature of almost every country abounds. And valuable as these sometimes may prove for the discovery of the sources of certain diseases, yet how confined is their tendency after all? and what better are they than scattered notes without any connecting link?

Besides these publications, there is an abundance of kindred material, furnished by the present improved state of natural sciences, which well deserves to be redeemed from its chaotic, and, of course, neglected condition. If collected, and, as far as practicable, *geographically* arranged, a desideratum would be obtained, which seems to have been felt by the father of physic himself, and which was but partially accomplished in his treatise on "Air, Water, and Situation."

Under the title of "*A Medical Geography,*" many an interesting phenomenon of nature, and many a curious fact, which hitherto has defied every attempt at explanation, might be more satisfactorily examined, when compared with each other, than ever could have been done before. The doctrine of external influences, so powerful, yet so mysterious, so frequently misinterpreted, because so little understood, would doubtless be much advanced by some sort of classification of their known or probable causes, and thus, at least, one fertile source of the opprobria medicorum would be gradually removed.

Having premised so much on the subject of physical influences, and on the utility and necessity of generalizing them, so as to enable us more fully to ascertain and understand their nature, it will now be requisite to demonstrate more in detail how a systematic arrangement might be accomplished, without, in the least, impairing or confounding, by an excessive fondness for theory, the more forcible arguments of nature. It has been intimated, as they admit of being classed according to certain geographical limits and boundaries, that a geographical description would afford the most correct and satisfactory arrangement. Pursuing this idea a little further, *a system of medical geography might be defined as that science which treats of, and describes, all those objects which have a marked influence upon the health, bodily constitution, mental faculties, and diseases of man.*

Divided into nations, tribes, and families, the human species is dispersed all over the globe, more so, indeed, than any other organized being, belonging to either the animal or the vegetable kingdom. Man is seen living and thriving under circumstances and relations the most heterogeneous when compared with each other. Thus, we find him under the sun-burnt regions of the equator, as well as on the icy fields of Greenland—in countries contiguous to the north and to the south pole; again we find him spinning out his existence in some remote and sequestered valley, undisturbed, during his journey from the cradle to the grave, by the commotions which agitate the majority of mankind; we meet him toiling for a livelihood on the highest mountains, as well as in the bowels of the earth; we see him

enjoying his existence in the vicinity of pestilential swamps and morasses, along the sea-shore, and on the ocean itself, whose unsealed deep is too often, alas! destined to become the final roadsted of the weary mariner and his associates.

From these premises, it will appear that the various external relations and circumstances under which he lives, and which act as moderators, as it were, of the privileges of life and action, must exercise a paramount influence upon his whole existence. For there is not the being who can so far soar above his earthly sphere, that any of the surrounding objects should be to him a matter of absolute indifference. Experience, on the contrary, shows that the most important gradations of the animal and intellectual man, seem to depend upon his external situation. Witness, for example, and compare the energetic, passionate, and fiery son of the Arabian desert, with the indifferent, squalid, and half-starved inhabitant of the polar region—the spirited and irritable Italian, with the calm and circumspect Dutchman, &c. Now, these are features and distinctions as remarkable as they are peculiar to entire nations; and in order to account for them, we are obliged to trace the laws of the economy of nature.

Yet, if the physical character of man in his healthy condition is already so varying, how much more so must this be the case in a state of disease and bodily suffering! Some diseases originate only in certain districts, where they remain stationary, or from whence they spread abroad, especially by means of contagion. Examples of the former kind are the plica polonica of Russian Poland, the pelagra of the northern provinces of Italy, and the elephantiasis of the East and West Indies: instances of the latter description are the small-pox, measles, lues venerea, &c. which most probably have had an origin quite local, at periods, however, so remote and uncertain, that the most enlightened of the medical profession, even at the present day, know but little as to the nature and circumstances under which they made their first appearance; but, after having seized once upon mankind, they have transferred the curse of their existence from generation down to generation.

The external circumstances alluded to above, must, therefore, exercise a considerable influence upon the character and course of the more common, especially the febrile diseases, from whence it may be further inferred that there exist, in different countries, although with the same diseases, a very marked difference of susceptibility for the impression of medical remedies. And this circumstance once admitted, we shall be no longer at a loss for some of the reasons why the practice of medicine varies so sensibly in different countries, or

why before praise or censure be bestowed, we should first examine the external causes, under the auspices of which, certain medical principles, established in theory, are sometimes abandoned in practice, or qualified, according to the genius loci. If, for example, this course of reasoning had been adopted always by the European theorists, particularly by some of the modern French schools, greater justice would doubtless have been done to the American practice of physic, and we should have heard less of the many foul aspersions, by which, at different periods, our more energetic mode of treatment has been branded.

Having dwelled upon the above remarks both as incidental and preparatory to the discussion of the object of inquiry, it may be proper now to point out, as far as limited abilities will go, the principal causes of the changes and vicissitudes of nature, which, as has been stated before, are to be looked upon as the nursery of those powerful physical influences upon the health and the diseases of man, and which, for the present purpose, must be considered as constituting the basis of a system of medical geography. In this point of view, *three* objects present themselves for consideration, which, being alike interesting and important, may be esteemed as the principal causes of the various changes daily witnessed in the economy of nature.

I. *The relation of our Planet to the Sun and the Moon.*

In order to define more clearly the precise nature and extent of this position, it will be of service to adopt the axiom of the natural philosophers—that in the same ratio, in which our earth submits to the influence of the heavenly bodies, man himself, with all the animals and vegetables, which live parasitically, as it were, upon its surface, of course, must be subject to it likewise. Therefore, as the sun is the sole cause of the natural division of time into night and day, we find the life of man divided into corresponding periods; which division has struck some philosophers with so much force, that they have even attempted to distinguish between a diurnal and a nocturnal life, the former of which was supposed to obey the solar—the latter the terrestrial principle. The regularly alternating function of watching and sleep; the regularity in the evacuations, as well as in the taking of food; the almost methodical return of certain periods in some diseases, as the paroxysms of tertian fevers, the exacerbations of others at the close of day, &c. all these events might be accounted for in this way.

The influence of the moon upon the career of some diseases is

most sensibly felt in the regions of the equator: but, also elsewhere there is ample testimony borne to its action.* The crises which, with so much regularity, take place on the seventh, fourteenth, and twenty-first days; the catamenia of females, (as is still believed by many;) the periodical bleeding by the piles, occasionally to be met with in some men; the increased vehemence with which some diseases are apt to renew their attacks in some of the moon's phases, as epilepsy; the nervous excitement of sleep walkers, &c. are a series of facts which strongly urge the belief of their being obedient to lunar influence.

Dr. F. Balfour in his "Treatise on the Action of Sol-lunar Influence," p. 62, says, "that there is reason to believe that the celebrated vis medicatrix naturæ, the producer of paroxysms, the giver of remissions, the deity of some physicians, the devil of others, is nothing more than the sol-lunar influence, exerting itself upon the condition of the constrictive power of the vascular system, in disease and in health, according to laws that are uniform and universal." And elsewhere† the same author remarks: "from the observations I have made in India, not only upon men, but upon dogs and horses, I am much inclined to believe that in all animals, even when in health, there prevails in the bowels, during the lunar periods, a stronger tendency to contract, and to retain their fæces, than during the inter-lunar intervals."

II. *The oblique position of the Axis of the Earth to the Solar circle.*

This is the cause of the periodical return of heat and cold, as well as of the alternate length and shortness of days and nights, or in other words, of the change of seasons. The wonderful influence of solar heat and light upon all organized beings is universally felt, and therefore admitted. They are, if considered in a practical point of view, the vivifying principles of creation; while cold and darkness induce sleep and inactivity, numbness, torpor, and death.

The distribution of heat over the globe is intimately connected with the local differences of the productions of nature, with the agriculture and the commercial intercourse of nations, and even, in several respects, with their moral and political situation. It is ascertained, that the remarkable differences of climate which we perceive in large tracts of country, under the same latitude, and on the same level above the surface of the sea, do not arise from the trifling in-

* Vide Balfour on Sol-lunar Influence, p. 5.

† A Treatise on Putrid Intestinal Remitting Fevers, p. 21.

fluence of individual localities, but that they are subject to general laws, determined by the form of the continents in general, by their outlines, by the state of their surface, but particularly by their respective positions, and the proportion of their size to the neighbouring seas. The relative position of the transparent or opaque, of the fluid or solid parts of the earth, modifies the absorption of the solar rays falling under the same angles, and at the same time the production of heat. These circumstances, the winter cover of ice and snow, which is peculiar to the continents, and to a very small part only of the seas; the slowness with which large masses of water are heated and cooled; the radiation from smooth or rough surfaces towards a cloudless sky; the regular currents of the ocean, and of the atmosphere, by which water and air from different latitudes and different depths and heights are mixed—all concur to produce the peculiarities of climate. It may, therefore, be said, that every place has a double climate, one depending on general and remote causes, on the general position and shape of the continents, and another determined by the peculiar relations of its locality.*

The distribution of heat in the different seasons is strikingly different, although the mean annual temperature be one and the same—a circumstance which has a very great influence on the growth of plants, and on the health of man. "In comparing the mean annual temperatures with one another," says HUMBOLDT, "I find that in the western part of the old continent, the temperatures diminish from the south towards the north in the following proportion:—

| | | | |
|---|---|---|---|
| "From 20° | to 30° | N. Lat. 3.2° | Reaumur. |
| 30 | to 40 | 3.6 | do. |
| 40 | to 50 | 5.7 | do. |
| 50 | to 60 | 4.4 | do. |

"In the eastern parts of the new continent the diminution of the mean temperature are as follows:—

| | | | |
|---|---|---|---|
| "From 20° | to 30° | N. Lat. 5° | Reaumur. |
| 30 | to 40 | 5.7 | do. |
| 40 | to 50 | 7.2 | do. |
| 50 | to 60 | 5.8 | do. |

"In the climate of palms, a feeble easterly wind always brings strata of air along with it, having generally the same temperature. Earthquakes, tempests, and thunder-storms do not disturb the small but periodical tides of the atmosphere. But the changed delineation of

* A. Von Humboldt's lecture on the principal causes of the difference of temperature on the globe.

the sun, together with the upper currents of the air, from the equator towards the pole, modified by this delineation, determine the beginning of the rainy season, and the electric explosions, which both begin at regular periods."*

To the seasons correspond the zones of the earth, to each of which, by virtue of the same law of nature, its peculiar climate is allotted. The hot zone, where perpetual summer is modified only by periodical rains, generates bilious, nervous, and putrid disorders; proofs of which are the cholera morbus of south-western Asia, and the yellow fever of the West Indies, and the Spanish Main. In consequence of the prevailing heat, a more active determination to the skin is induced in the living system, and the fluids are carried in greater abundance to the extreme vessels on the surface of the body. These facts authorize the watchful practitioner to look upon hot climates as the cradle, as it were, of the majority of all contagious, as well as of the most dreadful cutaneous diseases; hence lepra, elephantiasis, &c. are natives of tropical countries.

The cold zone, where an almost perpetual winter produces a poor, dwarfish, and weakly construction of parts, invites the pathologist to look for diseases of a more lymphatic and cachectic type, such as dropsies, marasmus, atrophy, &c. It is only in the more moderate regions that man attains the highest degree of perfection, both as to his physical construction and intellectual powers. And here the climate of the hot and the cold zone being blended, the diseases peculiar to both seem to take leave of each other, and changing with the seasons, the changes themselves give rise to many other maladies of an intermediate character, such as catarrhal, rheumatic, and inflammatory affections.

In the preceding observations have been shortly noticed those facts and laws of nature which exert a general influence on the condition of mankind, and in their mixed shades and forms, according to geographical demarcations, give a peculiar tone and character to all the animal functions. They cannot be too minutely examined, or too highly appreciated in a work on medical geography. But the subject, although far from being exhausted, has received that consideration which the object of this essay seemed to require; and in surrendering it into abler hands, it now will be proper to direct the attention to those objects amidst which man is born, and by which he is more immediately surrounded during life. In this point of view we shall have to consider—

* Vide Humboldt, l. c.

III. *The character of the Globe, as affording to Man a great variety of Habitations, graduated by local circumstances.*

The nature of the soil upon which man lives, the proximity of the ocean, and the mountains which divide the globe into several large and separate portions, occasion, even under the same latitude and climate, an immense variety of habitations, the peculiarity of which most extensively affect his customs and habits, his mode of life, and consequently his general health. Moreover, the temperature of the atmosphere, its meteorological changes, and the condition of water depend upon the same circumstances, and frequently give to some diseases a decidedly distinct type, or still more frequently occasion others of a more endemic character.

The state of the atmosphere, whether cold or warm, dry or moist, its changes and electric susceptibilities, constitute an aggregate of circumstances, with an unbounded variety of modifications, which as agents in the formation, prevention, or cure of diseases, are deserving of the nicest consideration and discrimination of every medical man. The air we breathe may be pure and healthy, or it may be impregnated with various exhalations, according to the circumstances of time and place. The vicissitudes of temperature increase or diminish the amount of perspiration, and render the blood more or less rarefied: how can such circumstances fail very perceptibly to influence, nay, even to change the constitution of the body? Their action is satisfactorily illustrated by the existence of that singular disease, called cretinism, so peculiar to the vallies of Switzerland and Savoy; by the spare form and bilious temperament of the inhabitants of the Arabian and African deserts; by the nature of every hardy and active mountaineer, in contradistinction to the indolent, lymphatic, and plethoric Mussulman on the swampy banks of the Nile.

Besides these, other circumstances command our attention. The winds, the vicinity to, or distance from the ocean, and the volcanic origin and condition of the soil of some countries, all exercise a very great influence upon the human frame in health and in disease. There are countries where, as in Italy and Sicily, a sultry southerly wind prevails for the greater part of the year, which greatly debilitates and prostrates the powers of life; there are others, where north-westerly winds perpetually cleanse the atmosphere, increase the circulation, and invigorate the system at large. Owing to the sea-breeze, islands and countries which are washed by the ocean, have a damp and changeable climate, where neither heat or cold reach the same degree of intensity and duration, as in countries of a corresponding latitude in the interior.

Volcanic countries, generally speaking, are extremely fertile, and abound in mineral springs, which continually give out sulphurous vapours, and hydrogen. But these apparently blessed regions do not by any means exist, without being doomed to experience from time to time the most fearful reactions. Frequent earthquakes disturb, there, the peace of man, and in addition to the other atmospheric changes, the sudden fright into which they are apt to throw whole communities, not unfrequently give rise to many diseases.

The knowledge of these circumstances, with a proper and judicious estimation, will greatly augment the resources of the individual practitioner. Climate, air, and water will become more distinguished as articles of the materia medica, than they have been heretofore. In like manner would the study of pathology derive signal advantages from a thorough acquaintance with medical geography. For the pathology of many endemial disorders is believed to be still highly susceptible of improvement.

Endemial disorders may attack the inhabitants of a city, district, or country, at any time of the year, and arise from the geographical situation or physical condition of such place or district, or from the peculiar construction of houses, or from the occupation, the customs or mode of living. Thus cutaneous diseases of a certain description are more particularly bred under the tropics, yet eruptions of a different character are frequently met with in northerly countries. Peculiar to the polar regions, but especially to Norway, is a species of lepra, or radesyge, as it is commonly denominated by the inhabitants of that country, which is said to be occasioned by the prevailing cold and dampness, which predisposes the skin to certain morbid impressions. Malignant, typhus, and putrid fevers have already been noticed as the products of hot and moist countries. Countries of higher latitudes favour the prevalence of inflammatory disorders; and if exposed to a powerful current of air, which is more frequently the case in mountainous districts, rheumatic affections, catarrhs, and the whole train of distempers, which arise from a suddenly-checked perspiration, are events of the most frequent occurrence. Thus struma is endemial to the population of Derbyshire in England, and to the Alps of Switzerland. In low situations, along river-courses, lakes, and stagnant waters, we will always find intermittents prevailing. In cold countries, such as England, Holland, and Sweden, the croup has been more frequently observed. In large and populous cities, we are struck with the frequency of pulmonary complaints, so much exceeding their proportion in country districts and villages.

Certain diseases peculiar to some districts, may occur also in others, either as individual and straggling cases, or as epidemics, provided that the weather and the atmosphere approximate that condition which is supposed to be the cause of their endemial character in the former, or in other words, as soon as the climate which favours their existence, is for a time transferred, as it were, to another district; which will account for the periodical return of intermittent fevers, after an absence of many years, and for the occasional occurrence of typhus and malignant bilious fevers, in countries, the situation of which would seem to entitle them to be exempt from their visits.

Under certain favourable circumstances, endemial diseases may generate also a contagious virus, by means of which they are apt to be carried to other countries, which may be predisposed for their reception by position and other circumstances. Of this the gloomy experience of the migrations of diseases afford ample evidence; there is, for example, the spreading of the plague and lepra from the east to Europe; the appearance of the yellow fever on the shores of the Mediterranean, brought there by vessels from the West Indies, where, according to Dr. CHISHOLM,* it had been introduced from the coast of Guinea; the ravages of the small-pox, &c.

It may, therefore, prove extremely serviceable to inquire into the endemial condition of individual countries, districts, and cities, by the knowledge of which measures can be taken to prevent the appearance of a certain disease altogether, or to improve the physical condition of a place. Thus, it is related that when LANCISI, principal physician to Pope Clement XI. caused the marshes of Pesaro to be drained, the diseases arising from their miasmata were observed to cease almost immediately. The same experience is daily made in the steady improvement of our American cities and settlements. Again, the cure of many obstinate complaints will very frequently be assisted by a change of place and climate for another of an entirely opposite character. In this way the English visit the south of France, and bask in the bland and luxuriant climate of Nice, in order to rid themselves of their pulmonary disorders, of hypochondria, &c. In like manner will a change of the air of the city, unhealthy and impregnated as it is with dust and other stimulating agents, for that of the country, frequently prove highly beneficial to the consumptive patient. A change of climate in hepatic diseases is looked upon, by

* Vide an Essay on the Malignant Pestilential Fever introduced into the West India Islands, from Boullam on the Coast of Guinea.

the European residents in India, as an infallible panacea. Mr. Annesley, in his splendid work on the Diseases of India, observes, on this subject,* that "this is doubtless correct in very many instances; but it is by no means so in all. Frequently the influence of a colder atmosphere is materially prejudicial, particularly in constricting the vessels on the internal surface, in determining an increased flow of blood to the large internal viscera, and promoting congestion and obstruction of those organs, which have been weakened by previous disease or the influence of climate. Hence it is that a plethoric state of the vascular system speedily supervenes in many cases, and that attacks of hepatitis or of dysentery so frequently supervene upon sudden changes from a high to a low temperature."

A forcible illustration of the remarks of this distinguished writer occurred under my own eyes, some years ago, whilst travelling in the state of New York. A gentleman from Norfolk, in Virginia, labouring under a pulmonary affection for some time, had persuaded himself that a change of place and climate would be of service to him. In a state of great debility he arrived at New York, from whence he proceeded up the North River, and believing that the mountain air would have a tendency to invigorate his failing powers of life, he caused himself to be transported to Pine Orchard, on the Catskill Mountains, where, however, very soon after his arrival, and during my casual sojourn there, a violent attack of dysentery supervened, which terminated his existence.

This, and many similar cases, therefore, will suggest the propriety of not resorting to a change of climate, without the utmost precaution and discernment. Many places and districts enjoy a great reputation for salubrity of climate, whose claims to it will appear exceedingly questionable upon a closer examination. At the head of these countries there is Italy, whose "blue sky and heavenly climate" has so long been the threadbare topic of admiration, in prose and in song. But let us hear what a recent writer† remarks on the healthiness of these classic regions.

"The whole plain between Pisa and Leghorn, as far at least as it approaches the sea, is highly pernicious, on the testimony of Italian authors, though it is the region watered by the almost classical Arno: and if Florence does escape that plague to a great degree, it is, on the same evidence, far from being the very healthy neighbourhood which it is commonly represented. Inland, the extent of this region is also considerable; since at Sienne itself, the annual mortality is one in ten, and even without epidemic fevers, or exclusive of them.—

* Vol. I. Ed. Lond. 1828, p. 684.

† J. Macculloch on Malaria. Philadelphia ed. 1829. p. 171, &c.

Of Rome itself I need not again speak: and if the town of Naples escapes this scourge, it is not so with regard to the sea-shore, even from Gaeta, since many parts are utterly uninhabitable in the summer. Nor is much of the surrounding interior country exempt, in spite of its attractive name Felice."

Yet how large is the number of invalids who visit Italy for the benefit of their health! The celebrated JOHN BELL, of Edinburgh, himself, was amongst that number, and paid the forfeit with his life upon the spot. It is here then that medical geography will render the most valuable practical aid to both the patient and his physician, by enabling them to distinguish betwixt the really and the apparently good. Scarcely less benefited would be the traveller, the foreign resident in unhealthy countries, the sea-faring man, and the soldier, by a knowledge of these facts, and by the subsequent adoption of such measures as are calculated to disarm them of their pernicious tendency, or at least to mitigate morbid impressions already made. Therefore medical geography, general and topographical, should be combined in such a way as would make it a science of easy reference. Valuable and numerous are the materials for its organization. CLEGHORN,* CHISHOLM,† ANNESLEY,‡ MACCULLOCH,§ are only a few of the more leading names in modern medicine, who have preceded their valuable treatises by compilations of their experience and observations on the local features of certain countries, the diseases of which, and their remote causes, they have successfully attempted to describe and to analyze. Innumerable are the medical topographies of the larger towns and cities of almost every country of the civilized portion of the globe. A few years ago, there was published in this Journal, a very accurate essay on the Medical Statistics of Philadelphia, being a Series of Tables, showing the Mortality and its Causes, by Dr. G. EMERSON.‖

The above named writers, in noticing the countries, the diseases of which they describe, have pursued certain rules which, with equal advantage, might be adopted for a more particular description of larger portions of the globe. Thus, after having determined the geographical position and latitude of a certain place, district, or country, it will be necessary to look for those features which characterize it more particularly. If there are mountains, their situation, height, and peculiarities must be examined, and the nature of the vallies, formed by them, inquired into, with particular regard always to the

* On the Diseases of Minorca.
† On the Fevers of the West India Islands. ‡ On the Diseases of India.
§ On Malaria.
‖ See American Journal of the Medical Sciences, for November, 1827.

direction in which they run. The woods and forests are to be considered next. Their vicinity or distance, their extent or density, and the principal genera of the trees of which they are composed, are objects alike important, pointing out the direction and character of the prevailing winds, so highly influential in the generation of many diseases. The average state of the atmosphere and weather; the winds which controul both; the quantity and quality of water as adapted to domestic purposes; the nature of the streams, and larger bodies of water, as suited to the purposes of commerce or the arts, deserve to be considered also with careful attention. Not less important is an inquiry into the nature of the soil and its different strata; the average fall of rain, and the average state of cold and heat, to be ascertained only from accurate observations made during a series of years. Finally, there are a number of details requiring a summary notice at least, because all, or each of them, exercise a joint or separate influence upon the health and the diseases of man. The construction of houses, the direction and arrangement of streets in large cities, and lastly, the customs, manners, habits, occupations, and propensities of the inhabitants, are objects deserving a proportionate share of attention.

Thus, after making due allowances for the inroads of a treacherous climate upon the human constitution, might not the excess of pulmonary complaints, in the northern sea-ports of the United States, be considered as the consequence of an absurd and almost culpable carelessness in dress of the female portion of the population, totally disproportionate in some seasons to the exigencies of climate? Again, the effects of tight-lacing are not less perceptible in the aggravated diseases of women, wherever this mania prevails.

Numerous diseases depend upon particular occupations. Scurvy, for example, is most frequently met with amongst sailors; and the colica pictonum is peculiarly the inheritance of painters, glaziers, manufacturers of white lead, &c.; psoriasis diffusa occurs in different shapes, most frequently in bakers, grocers, and washerwomen; shoemakers have the psoriasis palmaria locally, from the irritation of the wax they so constantly employ. In braziers, tinmen, silversmiths, &c. it seems to be produced by handling cold metals; whilst flax-dressers, according to Morgagni, and manufacturers of muriatic acid, are said to be particularly subject to phthisis pulmonalis.

A singularly striking proof of the influence of national customs and habits in the generation and propagation of disease, is afforded in the practices and the almost lethargic indifference of the Turks, with respect to that scourge of their Eastern paradise, the plague. In vain

did the law of Mahomet enjoin upon his followers those daily ablutions, which he, with a truly prophetic eye, seems to have viewed as the best and the most accessible of all prophylactic measures, calculated to guard the flock of the faithful from the dangers of hot climates. For there are two circumstances amongst others, observes a modern French writer,* which essentially contribute to the propagation or continuation of the plague at Constantinople. The one is the sale of the effects of individuals who have died of the disease, and for which, on account of their cheapness, there is always a brisk demand: the other is the belief that after the expiration of forty days, there is not the least danger in re-entering an infected room or apartment, which has been shut all this time, without ever taking the slightest pains previously to cleanse it. Now, it has been alleged that the plague is an unmanageable disease; yet, such it can hardly be called, so long as national customs have a tendency to perpetuate its virus, and thus, to render it endemial to the people. With the knowledge recently obtained by the investigations of the French and English army surgeons in the Levant, concerning the plague, it requires no great foresight to predict, what under an entirely Christian management, aided by a judicious police, might be effected to compel this distemper to part with a large portion of the malignancy of its type.

The experiments made in the camp before St. Jean d'Acre, by the celebrated Desgenettes, Surgeon General to the French army in Egypt, seemed to prove that the matter contained in the pustules was not infectious, and that, by promoting the sloughing process, the patient might be saved. Experience, to be sure, has demonstrated both at Constantinople, and in Egypt, that, upon the disappearance of the pustule, which previously existed under the arm, in the groin, or on the thigh, the fate of the patient was inevitably sealed. The same result used to take place, after the patient has become delirious, in which case no medicine was of any further avail. M. Andreossy, however, who is one of the highest recent authorities in all matters relating to the East, gives an account of an Armenian priest, who, being impressed with a religious belief that he could not take the disease, exposed himself every where, and, in 1812, not only superintended the Fever Hospital at Pera, but attended the infected himself. His only precaution, if such it can be called, was a small bag of saffron, which he continually wore in the region of the scrobiculus

* See Constantinople, et le Bosphore de Thrace pendant les années, 1812-13-14, and pendant l'année, 1826. Par M. Le Comte Andréossy, Chap. XIII.

cordis, and two *issues*, one upon each arm, constantly kept open. Now, if this account can be relied on, it would warrant the inference to be drawn from it, that the issues in this case served a purpose analogous to the practice of the French surgeons, of promoting the sloughing process of the pustules, incidental to an actual attack of the plague.

The Turks, whilst displaying an unaccountable apathy in some points, are, however, not such thorough-going fatalists as to neglect every means of precaution. They are well aware of the facts, that meat, animal substances in general, fresh bread, silk, cotton, cat's hair, &c. are very apt conductors of the plague, while wood, water, and oil resist the infection. Oil is considered an antidote; and it has been observed, that the carriers and venders of oil are rarely, if ever, attacked. Nobody touches with impunity any coin which has been in circulation for a long time. Therefore, the waiters and attendants in coffee-houses and shops never take the money immediately out of the hands of their customers, but receive it first on a wooden plate, after which they put it into a vessel filled with water, from whence they pick it up without any further danger. In like manner is meat always immersed into water, before the inhabitants receive it inside of their houses. Silks and woollen commodities, such as shawls, which cannot be immersed, are always more or less exposed to the action of the air, especially the night air, in open sheds, erected on the tops of their dwellings.

Another most powerful agent is the mode of life, which so frequently lays the foundation for the most obstinate chronic disorders. Hence, we find that in any given country, the deaths of a city are more numerous than those of the rural districts,* where frugality and bodily activity protect the inhabitants from those engorgements of important viscera, and subsequent derangement of structure, so frequently met with amongst citizens. This difference is principally felt in the first five years of life, when many more die in London than in the country. From five years of age to twenty, the deaths in London are fewer. Between twenty and fifty many more die in that city, on account of the large annual influx from the country. In all cities, a large portion of disease and death is to be assigned to the constant importation from the country, of individuals who have attained to maturity—but, having been previously habituated to frequent exercise in a pure atmosphere, and to a simple, regular diet, are gradually sacrificed to confined air, sedentary habits, or a capri-

* See Medico-Chirurgical Review, for October, 1829.

cious and over-stimulating food. This has been satisfactorily proved by the very curious experiments, made by Dr. GERMER, and very recently by Dr. BARON, on animals, which indicate that a loss of their open range and natural nourishment has with them, also, a tendency to disorganize and to destroy.*

And here the fact should not be overlooked, that the geographical division of the animal and vegetable kingdom, dispersed in tribes and families over the surface of the globe, and their instinctive predilection, as it were, for certain districts, is daily exerting its influence upon man and his habits. The influence of certain productions upon the inhabitants of such countries, where they are found indigenous, and in great abundance, must be evident. There are the spices of India; there the different kinds of wine, being the produce of Spain, Portugal, France, Italy, Greece, Hungary, and Germany; there the numberless productions of the grain-growing states of Europe, Asia, and America, the inhabitants of which countries use these articles daily, and in large quantities, from whence it would appear reasonable to infer their gradual and steady action upon the human frame.

Out of these circumstances, it will be evident, grow national tastes and peculiarities, in contradistinction to individual propensities, sufficiently numerous and influential to become an object of medical inquiry. Hence the Frenchman's fondness for poultry; the Greenlander's preference of his greasy food to every other luxury; and the Turk's indomitable passion for his favourite opium. Indeed, similar predilections are not wanting in our own country, which form as strongly marked lines of demarcation betwixt the people of the north and the south, as the Mississippi presents a natural barrier between the states of the east and the west.

Even the form of government, and the degree of civilization and prosperity, to a certain extent, depend upon the physical condition of a country. Mountainous districts which barely support a thin population, check the progress of civilization, and the supremacy of the law. Their bold and vigorous inhabitants give the preference to the chase, and to warlike pursuits, with murder and rapine in their train, while their enthusiastic love of liberty not unfrequently reduces them to a state of anarchy. Yet are they compelled to live temperately, for hunting and pasture afford them the only means of subsistence. The sea-coast, and the banks of large rivers, are more congenial to the occupations of commerce and of fishing; hence, from the earliest

* Medico-Chir. Rev. l. c.

records of history, these have been the cradle of republicanism. For commerce, although it does require the protection of the law, scorns to be governed by any other rule than that of equality; the shackles of monarchy, nobility, monopolies, and all its kindred institutions, are death to it; freedom of action and equality before the laws of the country are its only legitimate elements. However, extensive and fertile plains favour the principles of monarchy and agriculture, which, by indissoluble ties, links the tiller to the soil. Here the mechanical trades, arts, and letters are encouraged and rewarded. Yet a monarchy degenerates to despotism, as soon as the people begin to indulge in habits of idleness, dissipation, and indifference.

From statistical inquiries and comparisons, it would seem that the share of prosperity which a nation, or a part of it, enjoys, must have its due weight in the allotment of disease and death. The mortality in France increases among the poor, and diminishes among the affluent. In the wealthy departments of that kingdom, life is protracted twelve years beyond its course in those that are poor. Thus, in the departments of Calvados, of l'Orne, and La Sarthe, one individual dies annually in fifty; while in the twelfth arrondissement of Paris, the annual deaths are one in twenty-four. The population of the city of Amsterdam has decreased, in consequence of declining commerce and political changes. In 1777, the ratio of mortality was one in twenty-seven—a period when Amsterdam was one of the healthiest, as well as one of the most flourishing cities of Europe. The deaths have now increased to one in twenty-four; and Amsterdam is one of the least healthy, as well as least prosperous sea-ports of Europe. The average annual mortality of Leghorn, is one in thirty-five; among the protestants and Jews of that city, it is only one in forty-eight, which is attributed to their greater affluence.*

Now, it will appear from these observations that not only the mode of life and the occupations, which, under such different circumstances, are carried on, but also the form and the administration of government itself, must sensibly operate upon the customs and usages, the constitution, and the diseases of men. Nay, even political revolutions in individual countries are asserted frequently to have changed the physical condition of man, and the nature of his diseases. Reviewing, on one side, the great political, moral, and physical events which have occurred at Paris during a succession of years, and, on the other, the progress of its population, Villerme has ascertained

* See Medico-Chirurgical Review, October, 1829; and Hawkins' Elements of Medical Statistics.

that whenever the people have suffered from any cause, the deaths have correspondingly increased, the births have decreased, and the mean duration of life has been shortened. In periods of prosperity, he has found results directly opposite to these. From 1747 to 1755, the annual mortality of Berlin was one in twenty-eight. Between 1762 and 1799, it improved to one in twenty-nine and a fraction. Here the beneficial change was retarded by the ravages, the losses, or disappointments of war; and from 1802 to 1806, it had retrograded to one in twenty-seven; but from 1816 to 1822, a period of exultation and tranquillity to the Prussians, the value of life took a remarkable leap, and the annual deaths fell to less than one in thirty-four.*

Thus, we find man surrounded by innumerable circumstances which cannot but give a decided direction to his disposition and propensities, which controul his existence, and undermine his health: he believes himself an agent, lordly and free, and yet he is the offspring of nature, like every other created object; he renders himself master of every thing, and yet he must be subservient to them, in his turn, wherever he may abide.

*Philadelphia*, 1830.

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ART. XI. *Observations on a New Variety of Peruvian Bark, with some Remarks on the Alkaline Bases, Quinine and Cinchonine.* By GEORGE W. CARPENTER, of Philadelphia.

PERUVIAN bark, one of the most important articles of the materia medica, embraces a number of species, in the medicinal qualities of which there is a vast disparity. It is therefore peculiarly unfortunate that its natural history and classification should be so enveloped in ambiguity, the nomenclature of the different species so inadequate and defective, and the various writers so opposed in their opinions on the subject, as to render the investigation of the student from books almost fruitless. The attention of our pharmacologists should be particularly directed to the cinchona, for the purpose of determining a specific classification of those species now occurring in commerce, and of establishing a nomenclature for them, by which each

* Medico-Chirurgical Review, loc. cit.